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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/802,551	03/09/2001	Clive M. Philbrick	ALA-012	8657

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EXAMINER

PEREZ DAPLE, AARON C

ART UNIT	PAPER NUMBER
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2154

DATE MAILED: 08/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/802,551

Applicant(s)

PHILBRICK ET AL.

Examiner

Aaron C Perez-Daple

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 19 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date see continuation.
- 4) ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date 8/19/04.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This Action is in response to Application filed 3/9/01, which has been fully considered.
2. Claims 1-20 are presented for examination.
3. This Action is non-Final.

Election/Restrictions

4. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-18, drawn to an information transfer apparatus, classified in class 709, subclass 232.
 - II. Claim 19 and 20, drawn to an information transfer apparatus having a fast-path and slow-path, classified in class 709, subclass 238.
5. Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention I has separate utility such as ~~in~~ ^{NE} an information transfer apparatus in a system without slow-path means, lacking one or more particulars of invention II. In the instant case, invention II has separate utility such as an information transfer apparatus in a system without a file cache under control of a file system, lacking one or more particulars of invention I. See MPEP § 806.05(d).
6. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

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7. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.
8. During a telephone conversation with Mark Lauer on 8/18/04 a provisional election was made without traverse to prosecute the invention of an information transfer apparatus, claims 1-18. Affirmation of this election must be made by applicant in replying to this Office action. Claims 19 and 20 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Priority

9. Applicant has admitted in a telephone interview on 8/18/04 that the present claims draw support only from the present disclosure. Therefore the effective filing date for the claims is 3/09/01. If Applicant believes any of the claims are entitled to priority from an earlier application, Applicant is respectfully requested to point out the subject matter from the prior application on which the claims rely.

Double Patenting

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985);

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In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. **Claims 1-18** are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-23 of U.S. Patent No. 6,226,680 B1 (hereinafter '680) in view of Stevens and further in view of Schulzrinne. Although the conflicting claims are not identical, they are not patentably distinct from each other because UDP and RTP are well-known data transfer protocols comprising packets with transport layer headers. Motivation for combination is detailed ^{below}~~above~~ in the rejection of claims 1 and 11.

Claim Rejections - 35 USC § 112

12. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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13. **Claim 7** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, it is not clear how to interpret the limitation “said data does not enter said host computer” in line 1, because the specific elements of the “host computer” have not been recited and the elements of the “host computer” have not been explicitly defined in the specification. Under the broadest reasonable interpretation, the Examiner finds that the “host computer” may be interpreted as the CPU.
14. **Claims 11-18** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, it is not clear how to interpret the limitation “without encountering said host computer” in lines 11-12, because the specific elements of the “host computer” have not been recited and the elements of the “host computer” have not been explicitly defined in the specification. Under the broadest reasonable interpretation, the Examiner finds that the “host computer” may be interpreted as the CPU.
15. As dependent claims, claims 12-18 are subject to the same deficiencies as claim 11.

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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17. **Claims 1 and 3-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (US 5,913,028) (hereinafter Wang) in view of Stevens ("TCP/IP Illustrated, Volume 1: The protocols," New York, 1994.) and further in view of Schulzrinne et al. (RFC 1889, <http://www.ietf.org/rfc/rfc1889.txt?number=1889>, January 1996) (hereinafter Schulzrinne).

18. As for claim 1, Wang discloses an apparatus for transferring information between a network and a storage device, the apparatus comprising:

a host computer having a CPU (CPU 24, Fig. 2) operating a file system (file system 27, Fig. 3) and a host memory (memory 32, Fig. 2) connected to said CPU by a host bus (Figs. 2 and 3), and

an interface device coupled to said host computer, to the network and to the storage device, said interface device including an interface memory containing an interface file cache (local memory 44, Fig. 3) adapted to store data that is communicated between the network and the storage device under control of said file system (Network I/O Device, Fig. 3; col. 3, lines 31-52),

wherein said host computer is configured to designate *a socket* that is accessible by said interface device, and said interface device is configured to communicate said data between the network and the file cache according to said *socket* (Note, a socket is merely an endpoint of a connection, which is inherently required for communications on a network. See cited definition from techdictionary.com.; col. 4, line 38 – col. 5, line 5; Fig. 3).

Although obvious to one of ordinary skill in the art at the time of the invention, Wang does not explicitly teach that the socket may be Uniform Datagram Protocol (UDP) socket. The Examiner notes that UDP is a well-known protocol for data transfer on networks, as

shown by Stevens, Chapter 11, for example. Schulzrinne further teaches the use of UDP as an underlying protocol for RTP in order to maintain the real-time characteristics of data such as audio and video (section 1, Introduction). As understood by one of ordinary skill in the art at the time of the invention, when UDP is used, UDP sockets are inherently required in order to designate the endpoints of the connection (See cited definition from techdictionary.com.). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Wang by using UDP sockets in order to maintain the real-time characteristics of data such as audio and video, as taught by Schulzrinne above.

19. As for claim 3, Wang does not explicitly disclose the use of Realtime Transport Protocol (RTP) headers. Schulzrinne teaches creating RTP headers and prepending the header to the data for transmission over the network (Sections 5, 5.1, 10). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Wang by creating RTP headers and prepending the header to data in order to maintain the real-time characteristics of data such as audio and video, as taught by Schulzrinne above.
20. As for claims 4, 5 and 6, Wang does not explicitly disclose the use of UDP headers. Stevens teaches that UDP, by definition, prepends data with UDP headers, wherein the data is further divided into plural fragments which are concatenated corresponding to the UDP header (Sections 11.2 and 11.5). It would have been obvious to one of ordinary skill in the art to modify Wang by using UDP headers and dividing the data into plural fragments, in order to efficiently transfer data over a network, as taught by Stevens above.
21. As for claim 7, Wang teaches the apparatus of claim 1, wherein said data does not enter said host computer (col. 3, lines 31-52; Fig. 3).

22. As for claims 8 and 9, Wang does not explicitly teach that the data may comprise audio and video data. Schulzrinne teaches the transfer of audio and video data over a network (Section 1, Introduction). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Wang by transferring audio and video data in order to make this data accessible over a network.
23. As for claim 10, Wang teaches the apparatus of claim 1, wherein said data is a part of a realtime communication (col. 3, lines 31-52).
24. As for claim 11, Wang discloses an apparatus for transferring information between a network and a peripheral device, the apparatus comprising:
- a host computer having a processor(CPU 24, Fig. 2) connected to a host memory (memory 32, Fig. 2) by a host memory bus (connection illustrated in Fig. 2), said host memory containing an application operable by the processor to designate *a socket* (Note, a socket is merely an endpoint of a connection, which is inherently required for communications on a network. See cited definition from techdictionary.com.; col. 4, line 38 – col. 5, line 5; Fig. 3), and
 - an interface device (network I/O device 40, Fig. 2) connected to said host computer and coupled between the network and the peripheral device, said interface device including an interface memory adapted to store data corresponding to *said socket* and a mechanism configured to associate said data with *a header* corresponding to *said socket* such that said data is communicated between the network and the peripheral device without encountering said host computer (col. 4, line 38 – col. 5, line 5; Fig. 3).

Although obvious to one of ordinary skill in the art at the time of the invention, Wang does not explicitly teach that the socket and header may be a Uniform Datagram Protocol (UDP) socket and header. The Examiner notes that UDP is a well-known protocol for data transfer on networks, as taught by Stevens, Chapter 11, for example. Schulzrinne further teaches the use of UDP as an underlying protocol for RTP in order to maintain the real-time characteristics of data such as audio and video (section 1, Introduction). As understood by one of ordinary skill in the art at the time of the invention, when UDP is used, UDP sockets are inherently required in order to designate the endpoints of the connection (See cited definition from techdictionary.com.). Similarly, UDP headers are inherently required for addressing each of the packets (see Stevens, section 11.2). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Wang by using UDP sockets and headers in order to maintain the real-time characteristics of data such as audio and video, as taught by Schulzrinne above.

25. As for claim 12, Wang discloses the apparatus of claim 11, wherein said host computer contains a file system (file system 27, Fig. 3) and said interface memory includes a file cache (local memory, 44, Fig. 3) adapted to store said data, wherein said file system manages storage of said data in said file cache (col. 4, line 38 – col. 5, line 5; Fig. 3).
26. As for claims 13 and 14, Wang does not explicitly disclose the use of UDP packets and headers. Stevens teaches that UDP, by definition, includes UDP packets and headers, wherein said data travels over the network in plural fragments (packets) corresponding to the header. The interface device is further required to process the UDP headers and concatenate the data. See Stevens, Chapter 11, especially Sections 11.2 and 11.5. It would have been

obvious to one of ordinary skill in the art at the time of the invention to modify Wang by using UDP packets and headers, wherein the interface device processes the headers and concatenates the data, because these are well-known and necessary steps in order to efficiently transfer data over a network, as taught by Stevens above.

27. As for claim 15, Wang does not specifically disclose the use of Realtime Transport Protocol (RTP). Schulzrinne teaches the use of RTP and RTP headers in order to transfer data over a network while maintaining the real-time characteristics (Section 1, Introduction; Section 5.1, RTP Fixed Header Fields). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Wang by using RTP and RTP headers in order to transfer data over a network while maintaining the real-time characteristics, as taught by Schulzrinne above.
28. As for claims 16 and 17, Wang does not explicitly teach that the data may comprise audio and video data. Schulzrinne teaches the transfer of audio and video data over a network (Section 1, Introduction). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Wang by transferring audio and video data in order to make this data accessible over a network.
29. As for claim 18, Wang teaches the apparatus of claim 11, wherein said data is a part of a realtime communication over the network (col. 3, lines 31-52).
30. **Claims 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over Wang in view of Stevens and Schulzrinne and further in view of Applicant's admitted prior art (hereinafter AAPA).

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31. As for claim 2, although it may be argued to be inherent to Wang or well-known in the art, Wang, Stevens and Schulzrinne do not specifically disclose a host computer that is configured to create an application layer header that is accessible by said interface device, and said interface device is configured to prepend said application layer header to said data. AAPA teaches that it is conventionally known to use a host computer that is configured to create an application layer header that is accessible by said interface device, and said interface device is configured to prepend said application layer header to said data (pg. 31, line 28 – pg. 32, line 8). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a host computer that is configured to create an application layer header that is accessible by said interface device, and said interface device is configured to prepend said application layer header to said data in order to transmit data from the application layer over the network.

Conclusion

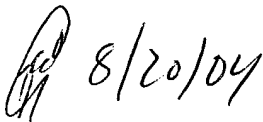
32. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 5,941,969, note summary of invention; US 5,909,546, note network interface with host bypass; US 5,931,918, note virtual file system and local cache buffer; US 6,421,753 B1, note Fig. 3; US 6,405,237 B1, note Fig. 3; US 6,049,808, note Fig. 7; US 6,470,382 B1, note Fig. 3A; US 6,470,397 B1, note transfer of storage and network data using same interface.

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33. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron C Perez-Daple whose telephone number is (703) 305-4897. The examiner can normally be reached on 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (703) 305-8498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Aaron Perez-Daple

